

A case of grade 3 haemorrhoids with non-obstructive hydrocephalus having ventriculo-peritoneal shunt in situ posted for haemorrhoidectomy under Saddle anaesthesia

Vijay Patil, Anupriya Chaturvedi *, Akshay Maroti Junghare and Swapnil Subhash Kawalkar

Department of anaesthesia GMC Nagpur, MUHS Nashik University, Nagpur city, India.

International Journal of Science and Research Archive, 2023, 09(01), 174–176

Publication history: Received on 07 March 2023; revised on 30 April 2023; accepted on 03 May 2023

Article DOI: <https://doi.org/10.30574/ijrsra.2023.9.1.0312>

Abstract

Now a days ventriculo-peritoneal (VP) shunts are one of the most commonly performed neurosurgical procedures. These patients can present for various surgeries in later period of life and anaesthetic management may become difficult and complicated in them. Subarachnoid block can be considered as suitable options in patients with no signs of raised intracranial tension having VP-shunt in situ posted for short surgical procedure like hemorrhoidectomy with due attention towards adequate hydration, strict asepsis and antimicrobial prophylaxis.

Keywords: Ventriculo-peritoneal shunt; Saddle anaesthesia; Subarachnoid block; Anaesthetic management

1. Introduction

- Ventriculo-peritoneal (VP) shunts are one of the most commonly performed neurosurgical procedures and these patient can present for various surgeries in later period of life and anaesthetic management may become difficult and complicated in them.
- While subarachnoid block for haemorrhoidectomy has distinct advantages, its administration in patient with VP shunt in situ has been controversial due to concerns regarding risk of brain stem herniation and introduction of shunt infection.
- In the absence of clinical evidence pointing to significant risk and complications, neuraxial anaesthesia may be safe and suitable alternative to GA provided due considerations are followed [1].

2. Case report

A 33 year male, weighing 65kgs with grade 3 haemorrhoids with operated case of hydrocephalus with Ventriculo-peritoneal (VP)shunt in situ posted for haemorrhoidectomy.

His General systemic examination is within normal limits and there were no signs of raised ICT and no focal neurological deficit. CT head shows craniotomy defect with VP shunt traversing through the right parietal region into the lateral ventricle. The tube is well in position and no hydrocephalus at present.

Neurosurgery consultation was taken which documented the shunt to be functional.

Since it was a short procedure and patient not having any signs of raised ICP, considering all factors and analysing risk-benefits we planned to go ahead with Saddle block(which is a kind of subarachnoid neuraxial blockade).

* Corresponding author: Anupriya Chaturvedi

Subarachnoid block associated with better post operative analgesia and reduced morbidity and early discharge when compared to General anaesthesia technique.

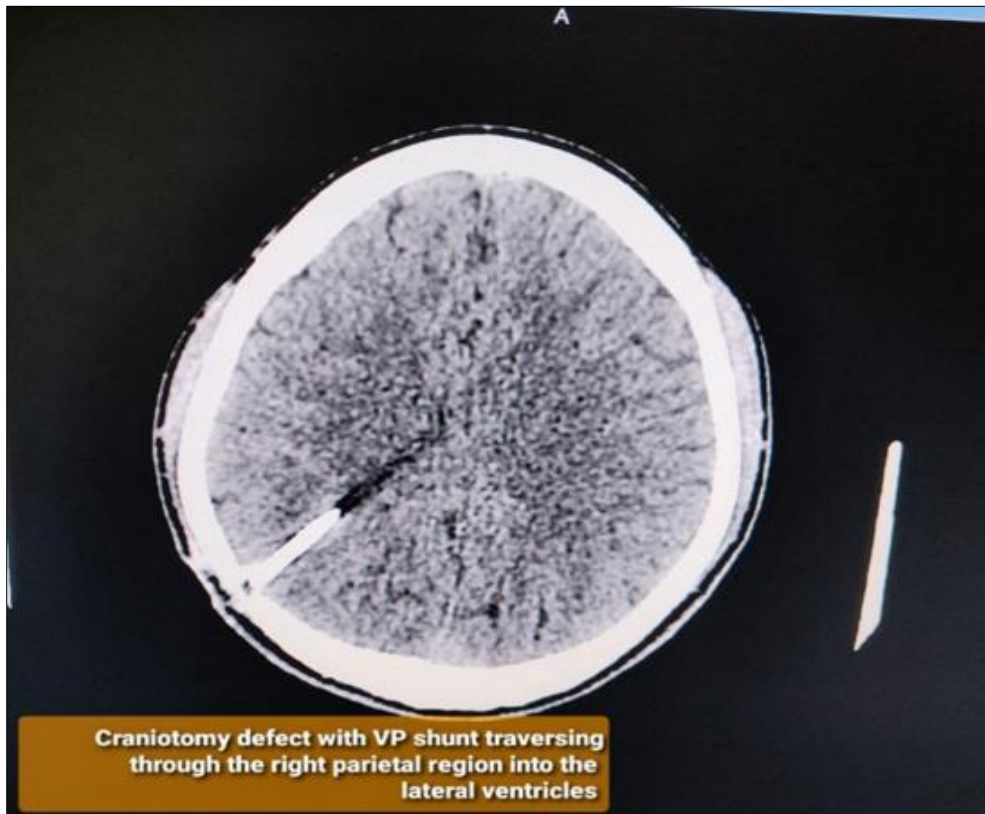


Figure 1 CT image showing VP shunt traversing through right parietal region into the lateral ventricle

2.1. Anaesthetic management

- Procedure explained to the patient and written consent was taken. Antibiotic prophylaxis with ceftriaxone 1 gm IV given. Patient pre loaded with 500 ml of crystalloid. Using standard anaesthesia technique and under all aseptic precautions Saddle block anaesthesia was performed with 1.5 ml 0.5% bupivacaine heavy with 60 mcg buprenorphine with 25 G spinal needle, adequate blockade achieved and patient was taken to supine position after 10 mins.
- Patient was haemodynamically stable under anaesthesia and intra operative period was uneventful, developed no neurological symptoms and kept under closed monitoring for next 48 hours and discharged third day postoperatively. Antibiotic prophylaxis was continued in the post operative period as per institutional guidelines. Patient was taught to recognise signs and symptoms of CNS infections and raise ICT and report to hospital.

3. Discussion

- On search of literature, reports seem to be either inconclusive or leaning in favour of GA. This may be due to the safety of neuraxial anaesthesia is uncertain in patients with VP shunt as it is generally contraindicated in patient with raised ICT due to the risk of brain herniation [1].
- It is important to assess following points before proceeding with neuraxial anaesthesia in patient with VP shunt [1].
 - Cause of Intracranial hypertension and whether communicating or non communicating hydrocephalus.
 - Will the dural puncture predispose to brain stem herniation
 - Functional status of VP shunt
- Ensure preoperative neurological examination is within the normal limit. Identify and document any signs and symptoms of raised ICP or CNS infections preoperatively.
- Intraoperatively use of atraumatic spinal needles of size 25 G or thinner to minimise the loss of CSF. Fluid coloding and the use of vasopressors if needed to avoid cerebral haemodynamic impairment.

- Asepsis, full barrier protection and antibiotic prophylaxis to avoid CNS infections [2].
 - Postoperatively maintain adequate hydration and make patient aware of signs and symptoms of raised ICP with instructions to report immediately [1].
-

4. Conclusion

Subarachnoid block can be a safe and suitable alternative to GA in patient with VP shunt in the absence of clinical evidence pointing to significant risks and complications , provided due considerations are followed.

Compliance with ethical standards

Acknowledgments

We thank our patient and its relatives who gave written informed consent .

Disclosure of conflict of interest

No conflict of interest.

Statement of ethical approval

The present research work does not contain any studies performed on animals/humans subjects by any of the authors.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study

References

- [1] Wadhwa B, Oberoi GK, Saha M, Saxena KN. Subarachnoid block in a parturient with ventriculoperitoneal shunt in situ: A case report and review. J Ind Coll Anesth 2022; 1:39-41
- [2] Whitney PS, Sturgess J. Anaesthetic considerations for patients with neurosurgical implants. BJA Educ 2016; 16:230-5. Back to cited text no. 13
- [3] Ivana Hirs, Patricia GrbcicKMSID: 1155462 Korean J Anesthesiol. 2012; 63(3):263-265. Published online 2012 September 14